INTERDISCIPLINARY REVIEW TEAM:

Name	Title	Area(s) of Responsibility
Richard Rosene	Outdoor Recreation Planner Team Leader	Recreation, Visuals, Wilderness, Wild and Scenic Rivers, Noise, Transportation
Paula Belcher	Hydrologist	Soil, Air and Water, Riparian, Prime & Unique Farmlands
Charles Cesar	Wildlife Biologist	Wildlife, Migratory Birds, T&E Species
Dennis Gale	Assistant Field Manager	ACEC, Environmental Justice, Socio-Economics, NEPA
Ryan Homan	HazMat Coordinator	Wastes - Hazardous and Solid
Richard Johnson	Rangeland Management Specialist (Middle Park)	Vegetation, Range Management, Invasive, Non-Native Species
Steve McCallie	Forester	Forest Management
Frank Rupp	Archaeologist	Cultural, Paleontology
John Morrone	Geologist	Paleontology, Geology and Minerals
Susan Cassel	Realty Specialist	Realty
Bill B. Wyatt	Fire Archaeologist	Fire Management

ATTACHMENTS

APPENDICES:

Appendix 1:	Outreach, Scoping and Public Meeting Chronology and Summary
Appendix 2:	Cultural Resource References
Appendix 3:	Cultural Sites That Are Directly Impacted Due to Road/Trail
Appendix 4:	Cultural Resources Programmatic Agreement
Appendix 5:	Watershed Analysis

MAPS:

Map 1:	Project Area Vicinity Map
Map 2:	Project Sub-Areas
Map 3:	Current Use Alternative – Summer
Map 4:	Current Use Alternative – Winter
Map 5:	Low Use Alternative – Summer
Map 6:	Low Use Alternative – Winter
Map 7:	High Use Alternative – Summer
Map 8:	High Use Alternative – Winter
Map 9:	Proposed Action – Summer
Map 10:	Proposed Action – Winter
Map 11:	Cumulative Effects Analysis – Area A
Map 12:	Cumulative Effects Analysis – Area B

APPENDIX 1

Outreach, Scoping and Public Meeting Chronology and Summary

May 18, 2003: Roz McClellan of Rocky Mountain Recreation Initiative coordinates a hike for 50+ individuals to the top of Wolford Mountain. Two Colorado Division of Wildlife game wardens discuss area wildlife and habitat. The field office NEPA coordinator and an outdoor recreation planner attend and discuss ongoing travel route inventory efforts, as well as the field office intent to begin formal travel management planning later in the year.

October 3, 2003: Formal outreach and public scoping for the Wolford Mountain Travel Management plan begins with a letter sent to stakeholders, interested parties, State and local government agencies, and area U.S. Forest Service offices in Granby, Dillon, and Walden. A notice is also published in the Sky Hi News and the Middle Park Times, two of the Grand County newspapers. The letter and notice announces a workshop to be held on October 22, 2003 at the Grand County Fairgrounds for the purposes of discussing and collecting information for a proposed travel management plan for the Wolford Mountain area.

October 9, 2003: At the request of Roz McClellan, representing the Rocky Mountain Recreation Initiative, an informal working group meeting is held with representatives of various environmental groups at the Kremmling Field Office. In attendance are Roz; Vera Smith (via teleconference- Colorado Mountain Club), Aaron Clark (Wilderness Society), John Ruhs, (BLM - Field Manager), Rich Rosene (BLM – Field Office Project Team Leader), and Dennis Gale (BLM - Field Office NEPA Coordinator). Items of discussion include desired future condition for the project area, the project area boundary, landscape scale analysis, non-motorized uses, noise, fragmentation, and the "Route Evaluation/Decision Tree Process", selected by the field office as a tool to use in the project area analysis.

October 22, 2003: The first of three workshops and public meetings is held at the Grand County Fairgrounds. To begin the workshop, the history of travel management in the Wolford Mountain area is presented, along with other pertinent background information such as mandates. A proposed schedule and tasks for the project completion are also presented. A breakout session follows, during which attendees have the opportunity to discuss their thoughts and ask questions of field office specialists regarding the various resources and resource management in the project area. There are thirty attendees at the workshop, and comments are collected on comment forms. A summary of comments from attendees and interested parties who could not attend the meeting is provided in Appendix #1.

December 11, 2003: At the request of the Friends of Wolford Mountain (Friends), an informal working group meeting is held at the Kremmling Field Office to review and discuss a travel management plan alternative which the Friends wish to submit to the project team for consideration. In attendance are Melinda McWilliams and Roger Shaw (Friends), Rich Rosene (BLM – Project Team Leader), John Arkins (BLM – Outdoor Recreation Planner), and Dennis Gale (BLM – NEPA Coordinator). Items of discussion included the project area boundary, motorized crossing of Cow Gulch, volunteer assistance to construct and/or maintain hiking trails, and the use and availability of the data being collected and used in conjunction with the project analysis.

January 14, 2004: A project update letter is sent to all interested parties listed on a comprehensive project mailing list prepared following the first public meeting. The mailing list also includes email and phone contacts from individuals expressing an interest in the project. The January 14 letter discusses project progress on alternative development, reviews the proposed action and need for the action, and sets the date for the second public meeting as March 17, 2004. The letter encourages recipients to continue to submit comments and suggestions to the field office.

March 5, 2004: A press release is issued noting the time and place for the second travel management workshop, and the opportunity to meet with field office specialists to discuss resource issues raised during scoping including wildlife, riparian, cultural, noise, commercial uses, and recreation uses. The release encourages area residents and interested parties to attend for review and discussion of the range of alternatives developed from internal and external comments.

March 10, 2004: A letter is issued to all interested parties listed on the mailing list, noting the March 17 workshop and the importance of input for developing a proposed or preferred alternative. Included is a mention that a third public meeting will be held once a preferred alternative is developed. For those who cannot attend the March 17 meeting, a contact for project input is provided.

March 16, 2004: A letter is received from a number of environmental groups noting that the range of alternatives should incorporate all of the scoping issues raised by the environmental community and included in this letter. The letter also includes a "vision plan" for the Friends of Wolford Mountain, which divides the project area into several "management areas", notes reasons for conducting a road density analysis and includes a number of recommendations for implementation of the plan as well.

March 17, 2004: The second workshop is held at the Grand County Fairgrounds in Kremmling. There are twenty five attendees at this meeting. The range of travel route designation alternatives, from low-use to high-use is presented, together with an in-depth discussion of the "Route Evaluation/Decision Tree" tool which the IDT is using in the analysis process. In order to seek more input for developing a preferred alternative, attendees are encouraged to share their comments with staff after the presentation and written comment sheets are distributed and collected. Times are noted when individuals and groups may come into the field office and review the alternative maps in detail.

March 19, 2004: A letter is sent to all interested parties on the mailing list to advise them of the posted times when the field office is open to allow review of alternative maps and discuss alternatives with field office staff. Four dates are noted, with three hours allotted each day for review and discussion. The comment period for submission of comments on the draft range of alternatives is extended through April 16, 2004. Interested parties are strongly encouraged to submit detailed comments, and a third public meeting is mentioned for display of the preferred alternative. If individuals are unable to visit the field office during the listed dates, they are advised to contact Project Team Leader Rich Rosene at (970) 724-3006 to schedule an alternate date.

April 2, 2004: A meeting is held at the field office at the request of the Friends of Wolford Mountain for the purpose of reviewing and discussing a proposed alternative being submitted by the Friends. In attendance for the Friends are Roz McClellan and Melinda McWilliams. Following discussion of the submitted alternative the Friends representatives are advised that the alternative will be considered as the draft proposed alternative is developed.

May 8, 2004: A hike up Wolford Mountain, organized by Roz McClellan of the Rocky Mountain Recreation Initiative is made by 54 individuals. Frank Rupp, the field office archaeologist, attends for the field office. Discussions of area cultural resources, including native religious and vision quest sites, and area wildlife are held throughout the hike.

May 14, 2004: A letter is issued to the Tribal Chairpersons and Council Members to solicit comments on the project. Included with the letter is a project area map. The letter mentions previous cultural resource inventories and findings and requests feedback by June 18, 2004. A letter is received from the Southern Ute Indian Tribe on May 26, acknowledging receipt of the May 14 letter, and the recording of numerous sites in the Wolford Mountain project area.

June 3, 2004: A letter is issued to all interested parties on the mailing list noting that a third workshop will be held on June 21, 2004 at the Grand County Fairgrounds. The workshop will provide maps and information for the draft proposed alternative. A press release noting the upcoming meeting is released on June 14 and notice of the meeting is provided in local newspapers. The mailing list has grown to 110 interested parties.

June 14, 2004: The Northwest Resource Advisory Council (RAC) is added to the mailing list (had previously been inadvertently omitted), and a letter is issued to the RAC advising them of the upcoming June 21 meeting. The letter notes a scheduled opportunity to meet with the RAC later in August to discuss the project and the "Route Evaluation/Decision Tree Process".

June 21, 2004: A third public meeting and workshop is held at the Grand County Fairgrounds to display the draft proposed alternative and discuss the alternative in detail with attendees. After a brief discussion of the area planning history to date, a schedule update for plan completion and implementation is provided and a breakout session follows, allowing for one-on-one comments and discussion with field office staff. Attendees are encouraged to continue submitting written comments on provided comment forms by July 21, 2004. Six open house dates of 3 hours per day are announced when individuals may visit the field office to review and comment on the preferred alternative. There are twenty attendees.

June 29, 2004: A letter is issued to all interested parties on the project mailing list and a press release is issued announcing the comment period for the draft proposed alternative. The open house dates for visiting the field office and reviewing and commenting on the draft proposed alternative are included. The comment period is extended to July 23, 2004.

July 23, 2004: The end of scoping and comment period. At this point in the project schedule, the IDT members conduct additional ground truthing where necessary and begin to conduct environmental impact analysis for the project alternatives.

August 12, 2004: The Northwest Colorado Resource Advisory Council (RAC) held one of their regular quarterly meetings in Kremmling. A presentation was made to the committee about the travel management plan and the "Route Evaluation/Decision Tree Process". The alternatives, including a draft proposed alternative, were presented and discussed with the RAC.

APPENDIX 2

Cultural Resource References

Armstrong, Haley J and David G. Wolny
1989 Paleontological Resources of Northwest Colorado: A Regional Analysis. Museum of Western Colorado. Grand Junction, Colorado.

Athearn, Frederic J.
1981 An Isolated Empire: A History of Northwestern Colorado. Cultural Resource Series Number 2. Bureau of Land Management. Colorado State Office. Denver, Colorado.

Black, Robert C.
1977 Island in the Rockies. Grand County Pioneer Society. Granby, Colorado.

Cassels, E. Steve
1983 The Archaeology of Colorado. Johnson Books. Boulder, Colorado.

Fitting, J. E. et.al.
1977 A Class II Cultural Resources Inventory of the Middle Park Planning Unit, Craig District, Colorado. Commonwealth Associates, Inc. Jackson Michigan.

Mehls, Steven F.
1984 Colorado Mountains Historic Context. State Historic Society of Colorado. Denver, Colorado.

Metcalf, Michael D. and Kevin D. Black
1991 Archaeological Excavations at the Yarmony Pit House Site. Cultural Resource Series Number 31. Bureau of Land Management. Colorado State Office. Denver, Colorado.

Nickens, Paul R., Signa L. Larralde and Gordon C. Tucker
1981 A Survey of Vandalism to Archaeological Resources in Southwestern Colorado. Cultural Resource Series Number 11. Bureau of Land Management. Colorado State Office. Denver, Colorado.

O'Neil, Brian
2004 A Class III Cultural Resources Survey of Selected Roads for the 2004-BLM Travel Management Plan, Wolford Project area, Red Mountain and Horse Gulch Sub Units, Grand County, Colorado. Western Colorado Archaeological Consultants. Grand Junction, Colorado.

Reed, Alan D. and Michael D. Metcalf
1999 Colorado Prehistory: A Context for the Northern Colorado River Basin. Colorado Council of Professional Archaeologists. Denver, Colorado.

APPENDIX 3

Cultural Sites That Are Directly Impacted Due to Road/Trail Going
Through or Immediately Adjacent to the Site
And in Immediate Jeopardy from Use and Maintenance
(GIS and Mapping Data Only - Not Ground Truthed)

Cultural Site #	Proposed Action: Recommended Route Designation	Mitigation Recommendation
	AREA 1	
5GA143	C.R. 277/ Open	Coordinate w/Grand County to restrict road operations & maintenance to existing footprint; No new run outs for drainage or improvements; Install closely-spaced metal T-posts or similar markers to define maintenance limits through site; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.
5GA639	Open/ C.R. 25 + Close/Rehab ** See also Area 4	Coordinate w/Grand County to restrict road operations & maintenance to existing footprint; No new run outs for drainage or improvements; Install closely-spaced metal T-posts or similar markers to define maintenance limits through site
5GA686.5	Victory Highway/Open/ATV	Use of Victory Highway is acceptable for OHV Use; Monitor for vandalism and degradation
5GA1906	State Land/Open	Recommendation To State: Monitoring-no expansion of existing foot print; Coordinate with State to protect this site.
5GA3321	Open	Monitoring-No expansion of existing foot print; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation
5GA3322	Open + Closed/Rehab	Monitoring-No expansion of existing foot print; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation
5GA3323	Closed/Rehab	Monitoring and Avoidance During Closure and Rehab
5GA3327	Open + Motorcycle + Close/Rehab	Monitoring-No expansion of existing foot print; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation
5GA3328	Open	Monitoring-No expansion of existing foot print; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation
5GA3329	Close/Rehab	Monitoring and Avoidance During Closure and Rehab
5GA3330	Close/Rehab	Monitoring and Avoidance During Closure and Rehab
5GA3333	Open + Seasonal Closure	Monitoring-No expansion of existing foot print; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation
	AREA 2	
5GA146	Open/ C.R. 224	Coordinate w/Grand County to restrict road operations & maintenance to existing footprint; No new run outs for drainage or improvements; Install closely-spaced metal T-posts or similar markers to define maintenance limits through site; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.

Cultural Site #	Proposed Action: Recommended Route Designation	Mitigation Recommendation
	AREA 2 (CONT'D)	
5GA172	Open	Monitoring-No Expansion of Existing Foot Print or Expansion of Y Intersection; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation
5GA637	Open	Monitoring-No Expansion of Existing Foot Print; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation
5GA645	Close/Rehab	Monitoring and Avoidance During Closure and Rehab
5GA652	Open/ C.R. 224	Coordinate w/Grand County to restrict road operations & maintenance to existing footprint; No new run outs for drainage or improvements; Install closely-spaced metal T-posts or similar markers to define maintenance limits through site; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.
5GA1499	Open	Reroute/Close; Monitoring-No Expansion of Existing Foot Print; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.
5GA1670	Open	Monitoring-No Expansion of Existing Foot Print; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.
5GA1753	Open + ATV + Private & BLM Lands	Site should be protected on west and north by an existing fence (Field Check); Monitoring
5GA2955	Open + Motorcycle	Monitoring-No Expansion of Existing Foot Print; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.
5GA3004	Open/C.R. 224	Coordinate w/Grand County to restrict road operations & maintenance to existing footprint; No new run outs for drainage or improvements; Install closely-spaced metal T-posts or similar markers to define maintenance limits through site; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.
5GA3011	Open + Motorcycle + Close/Rehab	Monitoring-No Expansion of Existing Foot Print; ; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.; Monitoring and Avoidance During Closure and Rehab
5GA3068	Open	Monitoring-No expansion of existing foot print; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.
	AREA 3	
5GA197	Open/ C.R. 25	Coordinate w/Grand County to restrict road operations & maintenance to existing footprint; No new run outs for drainage or improvements; Install closely-spaced metal T-posts or similar markers to define maintenance limits through site; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.
5GA206	Open/ C.R. 25	Restrict C.R. Maintenance to existing footprint; No new run outs for drainage or improvements; Closely spaced metal t-posts to define maintenance limits; Signs-Stay on Road & No Camping; Testing/Mitigation

Cultural Site #	Proposed Action: Recommended Route Designation	Mitigation Recommendation
	AREA 3 (CONT'D)	
5GA207	Open + ATV	Monitoring-No Expansion of Existing Foot Print; ; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation
5GA265	Open/ C.R. 25	Coordinate w/Grand County to restrict road operations & maintenance to existing footprint; No new run outs for drainage or improvements; Install closely-spaced metal T-posts or similar markers to define maintenance limits through site; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.
5GA295	Open	Monitoring-No Expansion of Existing Foot Print; ; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation
5GA631	Open/ C.R. 25	Coordinate w/Grand County to restrict road operations & maintenance to existing footprint; No new run outs for drainage or improvements; Install closely-spaced metal T-posts or similar markers to define maintenance limits through site; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation.
5GA632	Close/Rehab	Monitoring and Avoidance During Closure and Rehab
5GA638	Open + Close/Rehab	Monitoring-No Expansion of Existing Foot Print; Signs-Stay on Road & No Camping; Testing/Mitigation
5GA640	Open + Motorcycle	Monitoring-No Expansion of Existing Foot Print; Signs-Stay on Road & No Camping; Testing/Mitigation
5GA641	Close/Rehab	Monitoring and Avoidance During Closure and Rehab
5GA649	Open + Close/Rehab	Monitoring-No Expansion of Existing Foot Print; Signs-Stay on Road & No Camping; Testing/Mitigation
5GA650	Close/Rehab	Monitoring and Avoidance During Closure and Rehab
5GA686.4	Victory Highway	Use of Victory Highway is acceptable for OHV Use; Monitor for vandalism and degradation
5GA804	Open	Reroute Trail to the East; Administrative Only Access to Spring; Monitoring-No Expansion of Existing Foot Print; Signs-Stay on Road & No Camping; Testing/Mitigation
5GA1779	Close/Rehab	Monitoring and Avoidance During Closure and Rehab
5GA2173	Open + Admin	Monitoring-No Expansion of Existing Foot Print; Buck and pole fence along both sides of road; Potential educational/interpretive site, but not until protection and mitigation have been assured. Possible Religious Site; Native American Consultation needed.
	AREA 4	
5GA186	Open + Admin	Monitoring-No Expansion of Existing Foot Print; ; Construct buck and rail fence or other physical barrier to prohibit camping or off-road use; Testing/Mitigation
5GA199	Open	Monitoring-No Expansion of Existing Foot Print; Signs-Stay on Road & No Camping; Testing/Mitigation
5GA200	Open	Monitoring-No Expansion of Existing Foot Print; Signs-Stay on Road & No Camping; Testing/Mitigation

Cultural Site #	Proposed Action: Recommended Route Designation	Mitigation Recommendation
	AREA 4 (CONT'D)	
5GA206	Open/ C.R. 25 ** See Also Area 3	Restrict C.R. Maintenance to Existing Footprint; No new run outs for drainage or improvements; Closely spaced metal t-posts to define maintenance limits; Signs-Stay on Road & No Camping; Testing/Mitigation
5GA297	Open/ C.R. 25	Restrict C.R. Maintenance to Existing Footprint; No new run outs for drainage or improvements; Signs-Stay on Road & No Camping; Testing/Mitigation
5GA633	Open + ATV	Monitoring-No Expansion of Existing Foot Print; Signs-Stay on Road & No Camping; Testing/Mitigation
5GA639	Open/ C.R. 25 + Close/Rehab ** See also Area 1	Restrict C.R. Maintenance to Existing Footprint; No new run outs for drainage or improvements; Closely spaced metal t-posts to define maintenance limits; Signs-Stay on Road & No Camping; Testing/Mitigation
5GA2231	ATV	Monitoring-No Expansion of Existing Foot Print; Signs-Stay on Road & No Camping; Testing/Mitigation (No Site Forms on File)
	AREA 5	
5GA686	Victory Highway	Use of Victory Highway is Acceptable for OHV Use; Monitor for vandalism and degradation
5GA1902	US Highway 40	Restrict Highway Maintenance to Existing Footprint; No modifications or improvements outside of existing fenced foot print
5GA2179	Open	Monitoring-No Expansion of Existing Foot Print; Signs-Stay on Road & No Camping; Testing/Mitigation

APPENDIX 4

PROGRAMMATIC AGREEMENT

AMONG THE BUREAU OF LAND MANAGEMENT-KREMMLING FIELD OFFICE, THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, THE COLORADO STATE HISTORIC PRESERVATION OFFICER REGARDING THE IMPLEMENTATION OF THE TRAVEL MANAGEMENT PROGRAM

WHEREAS the Bureau of Land Management-Kremmling Field Office ("BLM-KFO") intends to administer a travel management program to be detailed in a series of forthcoming management plans; and

WHEREAS the Area of Potential Effect ("APE") comprises the entire BLM-KFO jurisdiction (all BLM lands in Middle and North Parks, Colorado); and

WHEREAS BLM-KFO administers hundreds of miles of roads and trails, ranging from well maintained gravel roads to user created trails; and

WHEREAS BLM-KFO in consultation with the Colorado State Historic Preservation office ("SHPO") and the Advisory Council on Historic Preservation ("Council"), has determined that the Travel Management Program might affect historic properties; and

WHEREAS the BLM and the Council have entered into a programmatic agreement dated May 26, 1997; and Colorado BLM and the Colorado SHPO have entered into a protocol agreement dated April 26, 1998; and

WHEREAS the Native American Tribes listed in Attachment 1 were invited to participate in consultation regarding this undertaking and have been invited to concur in this Programmatic Agreement; and

NOW, THERFORE, BLM-KFO, the SHPO and Council agree that the program shall be administered in accordance with the following stipulations to satisfy BLM-KFO's responsibilities under Section 106 of the National Historic Preservation Act for all individual undertakings of the program.

STIPULATIONS

I. PLANNING

A. Pursuant to Part VI of the Protocol, BLM will share its transportation plans with SHPO at the earliest opportunity.

B. The BLM-KFO archaeologist will provide input into BLM's transportation plans.

II. CULTURAL RESOURCES INVENTORY

A. Because of the magnitude of the undertaking, and the low potential for historic properties in certain areas, BLM-KFO will determine whether a Class I (literature review), Class II (reconnaissance), or Class III (intensive) cultural resources inventory is needed.

B. BLM-KFO will determine the inventory level based on information collected during literature reviews focused on the vicinity of the roads or trails under consideration, on topographic, vegetation, slope and other factors, and on the knowledge of the KFO Archaeologist. An example of a Class II area would be one where multiple cultural inventories have been conducted, and few to no cultural resources have been discovered. In such a case, only locations where sites are likely to be present would be culturally inventoried, such as terraces adjacent drainages, hills or ridgetops, or areas near permanent or ephemeral waters sources.

C. Where cultural inventory is determined necessary, the archaeologist will survey a corridor that extends a minimum of 50 feet on both sides of the centerline of a trail or road and will include inventory for staging areas, with a minimum 50 foot buffer around the staging area, for the purpose of unloading or loading of vehicles, horses, bicycles, etc.

D. Before BLM-KFO carries out any ground disturbing undertaking (such as signing that requires excavation, installation of a cattle guard, changing a route, reclaiming a route, etc.) that has not been subject to a cultural resources inventory, the BLM-KFO archaeologist will determine if a Class I, Class II or Class III inventory is needed, and inventory will be completed prior to implementation of the undertaking.

E. If BLM-KFO discovers a possible historic property it will record and evaluate the site for eligibility to the National Register of Historic Places ("NRHP"), and will follow standard consultation procedures outlined in BLM's Protocol agreement with SHPO.

F. If a historic property is suffering adverse impacts resulting from the use of a road or trail, BLM-KFO will immediately take action, such as rerouting traffic or emergency treatment of the site, to protect it from further damage until consultation activities are complete.

III. PRIORITIZATION

Because a wide range of roads and trails are present in the APE and are categorized by level of formality and size, when determining the order in which they will be inventoried, BLM-KFO will place the greatest emphasis on the roads and trails for which the type of use is most likely to adversely affect historic properties.

	(Gravel)	(Dirt)	(Unimproved)	4WD	(Trails 48" and wider)	(Trails narrower Than 48")
Motorized	3	2	2	2	1	1
Non-motorized	3	3	3	3	2	2

1=High Priority; 2= Medium Priority; 3=Low Priority

IV. MAINTENANCE ACTIVITIES

A. Before BLM-KFO performs maintenance activities of a specific road or trail, it will first determine whether a cultural resources inventory has been performed. If not, BLM-KFO will follow procedures in Section I above.

B. If an inventory has been performed and historic properties have been identified, BLM-KFO will determine in consultation with SHPO, whether maintenance activities will constitute and adverse effect.

C. If maintenance activities will cause historic properties to be adversely affected, BLM-KFO in consultation with SHPO, will determine whether avoidance is possible or whether treatment is necessary.

D. If treatment is necessary, BLM-KFO will complete its mitigation activities before maintenance activities commence.

E. If during the course of maintenance or other ground disturbing activities, a historic property is uncovered or otherwise discovered, BLM will follow procedures detailed in Part X of the Protocol.

V. NATIVE AMERICAN CONSULTATION

A. BLM-KFO will consult annually with Native Americans regarding the BLM's plans for road maintenance for that year.

B. BLM-KFO will also consult with Native Americans on individual transportation plans.

C. Native American consultation will be conducted following procedures in Part VI of the Protocol and the BLM 8160 Manual.

D. If during the course of conducting an inventory, BLM-KFO discovers a possible burial, religious sacred site or traditional use property, BLM-KFO will take measures to protect the site and notify the Native American Tribes (Tribes) listed in Attachment 1.

E. BLM-KFO will provide the Tribes with documentary information about the property, including site forms, photographs and maps.

F. The Tribes will have 30 days to respond to BLM-KFO with comments and concerns. If BLM-KFO does not hear from the Tribe during that time, it will assume the tribe has no comments or concerns.

G. BLM-KFO will take into account comments and concerns raised during the consultation and will take appropriate measures as necessary. Such measures might range from avoiding the property to closing the road or trail.

BUREAU OF LAND MANAGEMENT

John F. Ruhs
Field Manager
Kremmling Field Office

16 Dec 2004
Date

COLORADO STATE HISTORIC PRESERVATION OFFICER

Georgianna Contiguglia

Dec. 21, 2004
Date

SOUTHERN UTE TRIBE

Acting Tribal Chairman

1-11-05
Date

Tribal Consultation List:

Northern Ute Tribe

Maxine Natchees, Chairwoman
Uintah and Ouray Tribal Business Committee
P.O. Box 190
Ft. Duchesne, Utah 84026

Ms. Besty Chapoose
NAGPRA Representative
Northern Ute Tribe
P.O. Box 190
Ft. Duchesne, Utah 84026

Ute Mountain Ute Tribe

Mr. Art Cuthair, Acting Chairman
Ute Mountain Ute Tribe
P.O. Box 348
Tawoac, Colorado 81334

Mr. Terry Knight
NAGPRA Representative
Ute Mountain Ute Tribe
P.O. Box 348
Tawoac, Colorado 81334

Southern Ute Indian Tribe

Chairman Howard Richards
Southern Ute Indian Tribe
P.O. Box 737
Ignacio, Colorado 81137

Mr. Neil Cloud
NAGPRA Representative
Southern Ute Indian Tribe
P.O. Box 737
Ignacio, Colorado 81137

Shoshone Tribe (Eastern Band)

Chairman Frederick Auck
Shoshone Business Council
Shoshone Tribe
P.O. Box 538
Fort Washakie, Wyoming 82514

Mr. Delphine Sinclair
NAGPRA Representative
Shoshone Tribe (Eastern Band)
P.O. Box 538
Fort Washakie, Wyoming 82514

Northern Arapaho Tribe

Chairman Burton Hutchison
Northern Arapaho Business Council
P.O. Box 396
Fort Washakie, Wyoming 82514

Mr. Robert Goggles
NAGPRA Representative
Northern Arapaho Tribe
P.O. box 396
Fort Washakie, Wyoming 82514

APPENDIX 5

Watershed Analysis

Soil Information: The Wolford Travel Management Area's soils are mapped in the Grand County Soil Survey. The Survey, done by the Natural Resource Conservation Service, was published in 1977 and not yet available in a digital format. The BLM has scanned the four maps the cover the project area to allow for GIS analysis of the area. The Wolford area consists of numerous soil mapping units, although 49% consists of Harsha loam soils. Harsha loams were formed in alluvial sediments from sedimentary rock. The surface soil textures are loam with clay loams approximately 6 inches from the surface. Calcareous material is found about a foot below the surface, with moderate alkalinity.

The major soil mapping units within the Project Area are summarized below:

Soil Unit	Acres/ Percent of Area	Hydrologic Soil Group	Erodibility (k factor)	Erosion Tolerance (T factor)
Harsha loam, 15-50% slopes, eroded	10591 acres 24.8%	B	0.28	5
Harsha loam, 6-15% slopes	7467 acres 17.5%	B	0.28	5
Harsha loam, 0-6% slopes	3025 acres 7.1%	B	0.28	5
Roxal loam, 15-50% slopes	3011 acres 7.1%	D	0.28	2
Cryorthents-Rock outcrop complex, extremely steep	2981 acres 7%			
Cumulic Cryaquolls, nearly level	1822 acres 4.3%			
Aaberg clay loam, 15-30% slopes	1388 acres 3.3%	D	0.28	3
Leavitt loam, 6-15% slopes	1365 acres 3.2%	B	0.37	5
Aaberg clay loam, 15-30% slopes	1357 acres 3.2%	D	0.28	3
Binco clay loam, 2-6% slopes	1134 acres 2.7%	D	0.28	5
Quander stony loam, 15-55% slopes	1092 acres 2.6%	B	0.15	5
Tine cobbly sandy loam, 15-55% slopes	1074 acres 2.5%	A	0.15	3

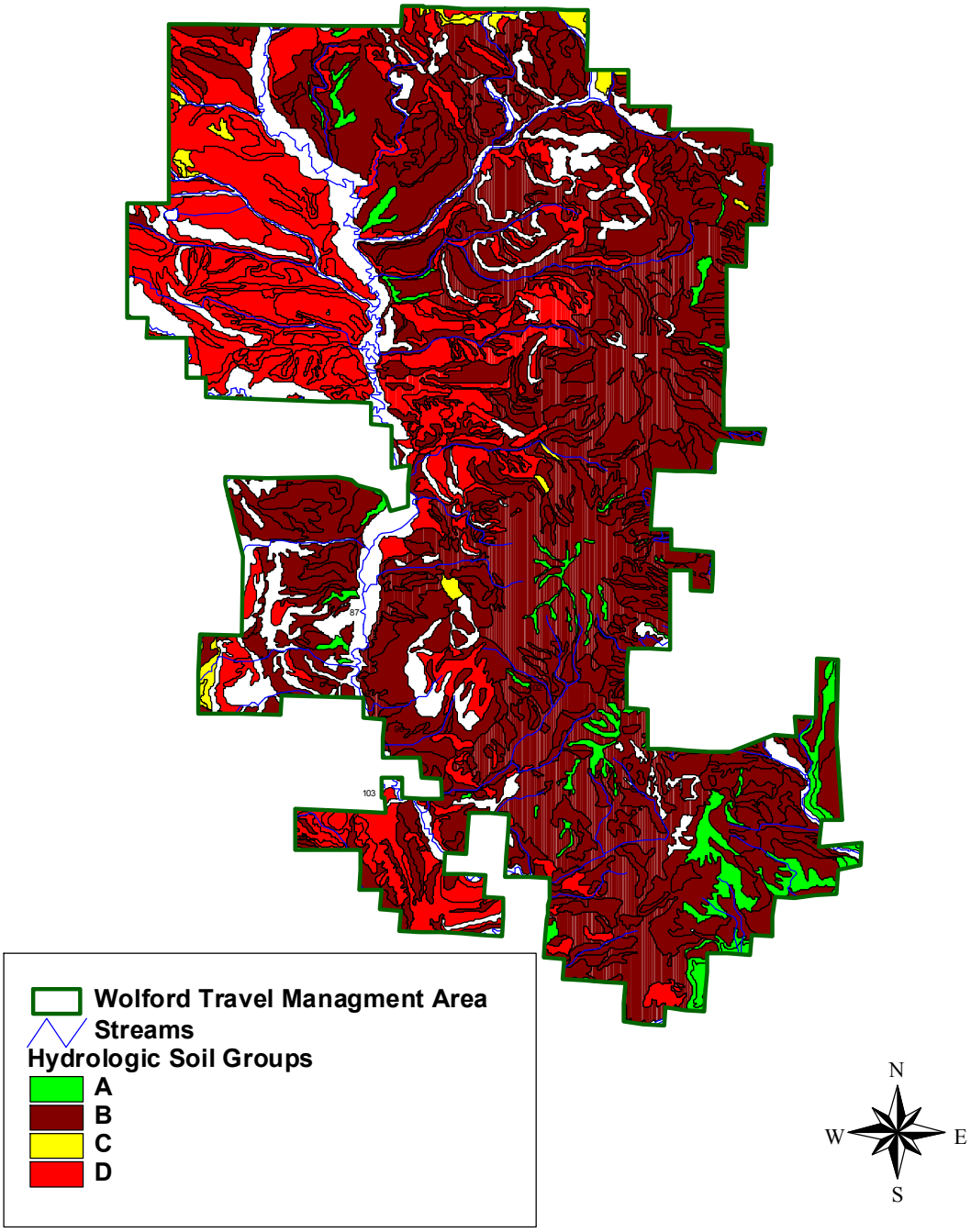
Cryorthents are soils that lack horizon development and primarily are on recent erosional surfaces-geologic or land-use induced. They are generally found on high mountains or in high latitudes. Textures tend to be sandy-skeletal, on slopes where rock is shallow, and are in a cryic (cold) soil temperature regime. In the Grand County mapping unit, bedrock is between 10-40 inches from the surface. The mapping unit is approximately 55% cryorthents and 30% rock outcrop, with small areas of other soils. For most of the runoff and erosion calculations, these units were treated as responding as rock outcrops. Cumulic Cryaquolls are soils that "have an overthickened mollic (dark brown to black) epipedon (top layer) as a result of slow accumulation of material washed from higher areas" (NRCS). They have wet (aquic) conditions either above a rock or impermeable layer or within 40-50 cm of the mineral soil surface and are in a cryic soil temperature regime. For this analysis, these soils were treated as having wetland values.

The Hydrologic Soil Group is an indicator of the amount of runoff production. "The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration (SCS)." Soil groups do not consider the vegetative cover or the slope, both of which are separate factors in estimating runoff amounts. "A" soils have the lowest runoff production, while "D" soils have the greatest. D soils may have poor infiltration rates due to clay layers near the surface, or having high water tables, or being shallow soils over bedrock. The Hydrologic soil group was used to summarize the soils for each drainage area and for each hydrologic response unit (see Watershed Information). The K factor is from the Universal Soil Loss Equation, and is a measure of the susceptibility of the soil to erosion by water. Generally values higher than 0.35 are considered "erosive". T factors are an indicator of the soil's tolerance to water and wind erosion without reducing the environmental quality. The T factor is expressed in tons of soil loss per acre per year.

Additional Soil Information: In addition to creating overlays of the project area of erosive soils and hydrologic soil groups, an overlay was created of slopes greater than 30% to identify routes that were located on steep portions of the project area. The Revised Universal Soil Loss Equation (RUSLE) was used to compare relative soil loss for road of concern. The USDA's Watershed Erosion Prediction Project (WEPP) for rangeland and disturbed areas was used to compare predicted sediment loads from various road locations. The predicted sediment losses and loads were less important in the use of the models as the relative increase or decrease between alternatives or in comparing routes.

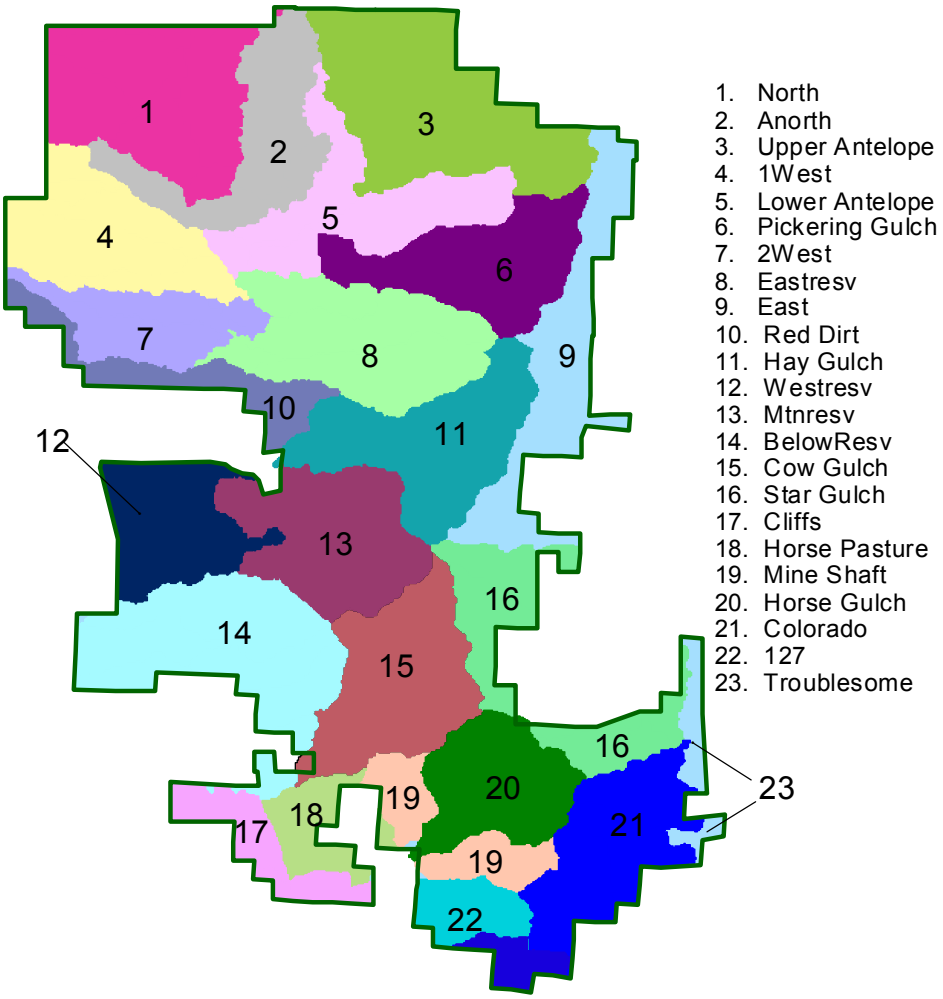
Watershed Information: The Project Area is located within the Upper Colorado River basin. The Muddy Creek 5th order watershed covers most of the project, with some of the eastern portion lying within the Troublesome (6th Order) watershed. There is also a small portion in the south east corner that drains to the mainstem of the Colorado River. An overlay of smaller (about 2,000 acres) drainage areas was created for the project area. The drainage areas consisted of the few perennial or intermittent streams that are located entirely in the project area, major ephemeral drainages, and the portions of other drainage areas within the project boundaries. (See example maps). Each drainage area was reviewed for erosive soils, runoff potential, and road densities for each alternative. To aid in the review, the drainage areas were subdivided into hydrologic response units (HRUs) with slopes, soils, and roads summarized for each response unit. Runoff potential was calculated for no roads, exisiting, and each alternative for each drainage area and each HRU. A 100 foot buffer zone was also overlain over all surface waters to highlight routes that occur near surface water.

Hydrologic Soil Groups in
The Wolford Travel Management Project Area



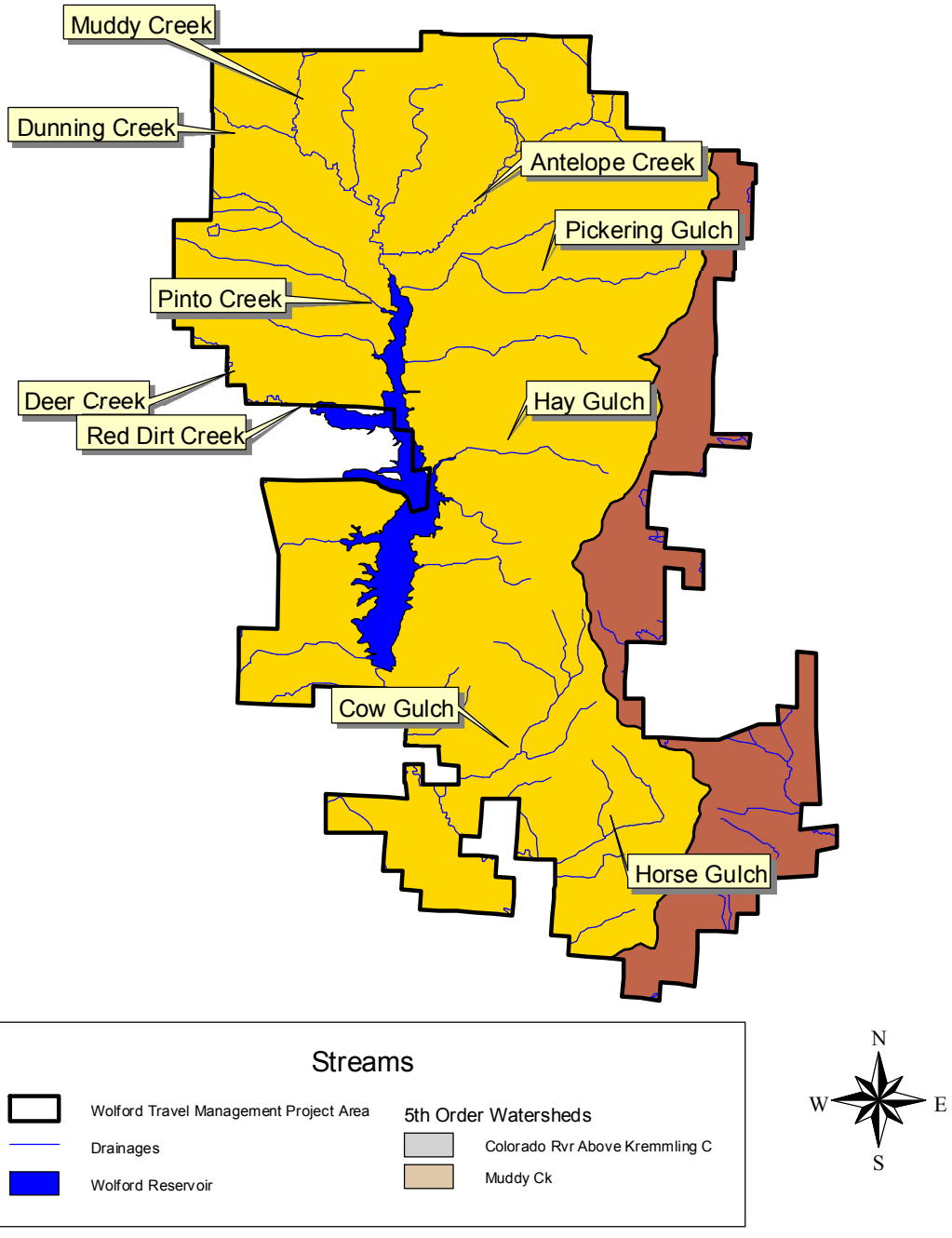
Appendix 5, Map A

Delineated Drainage Areas for the Wolford Travel Management Project



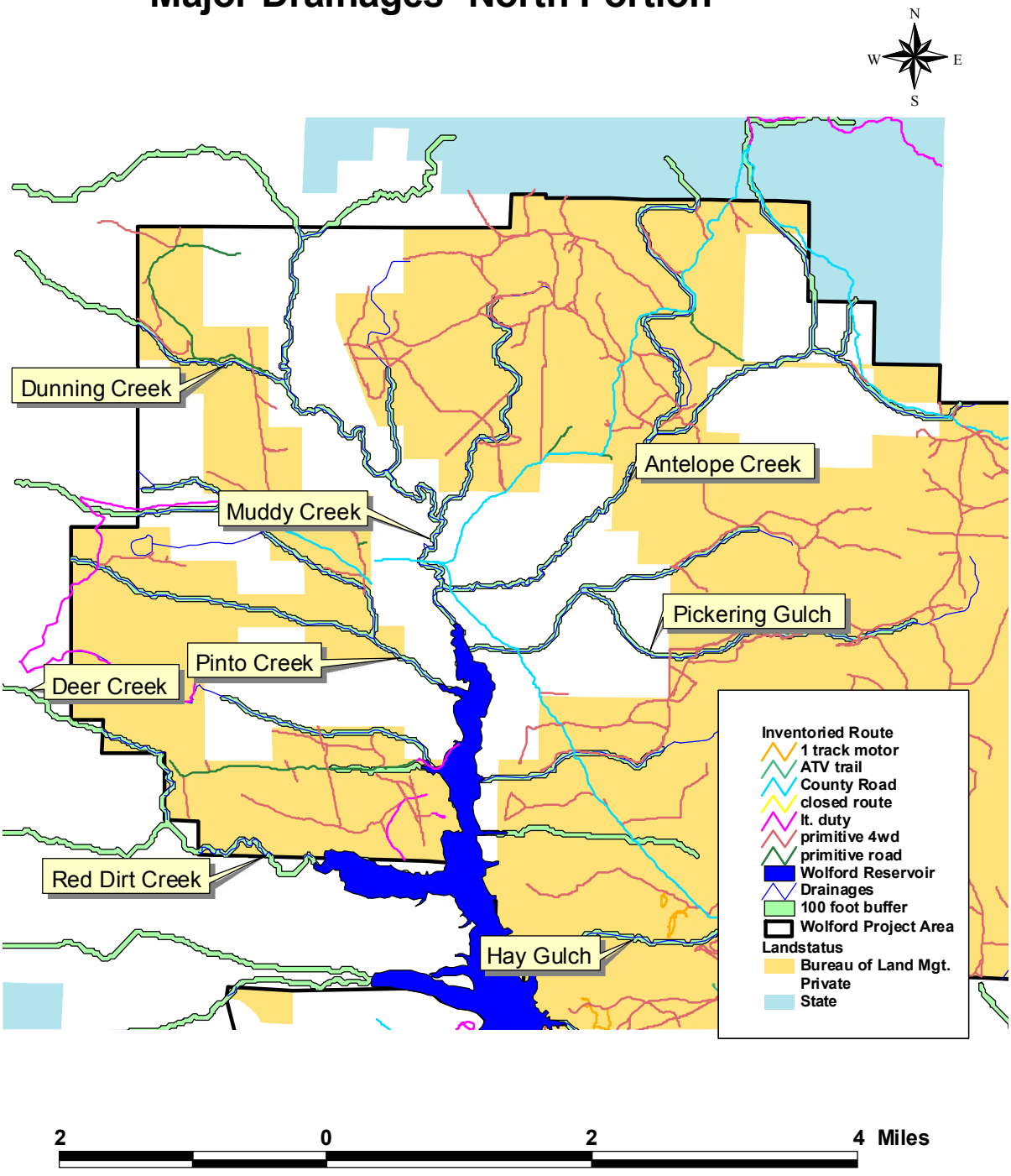
Appendix 5, Map B

Wolford Travel Management Project Area Streams



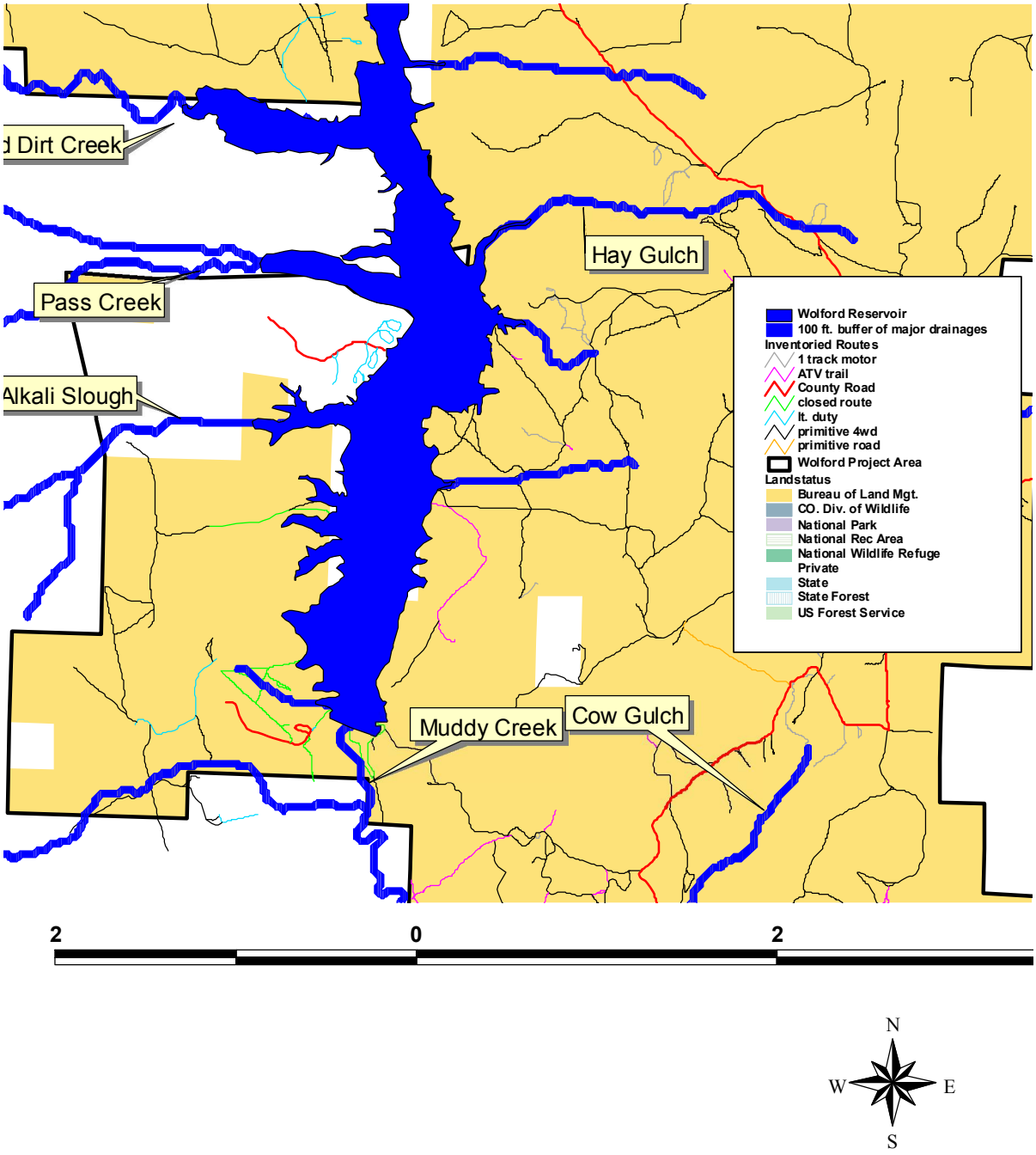
Appendix 5, Map C

Wolford Travel Management Area
Major Drainages- North Portion

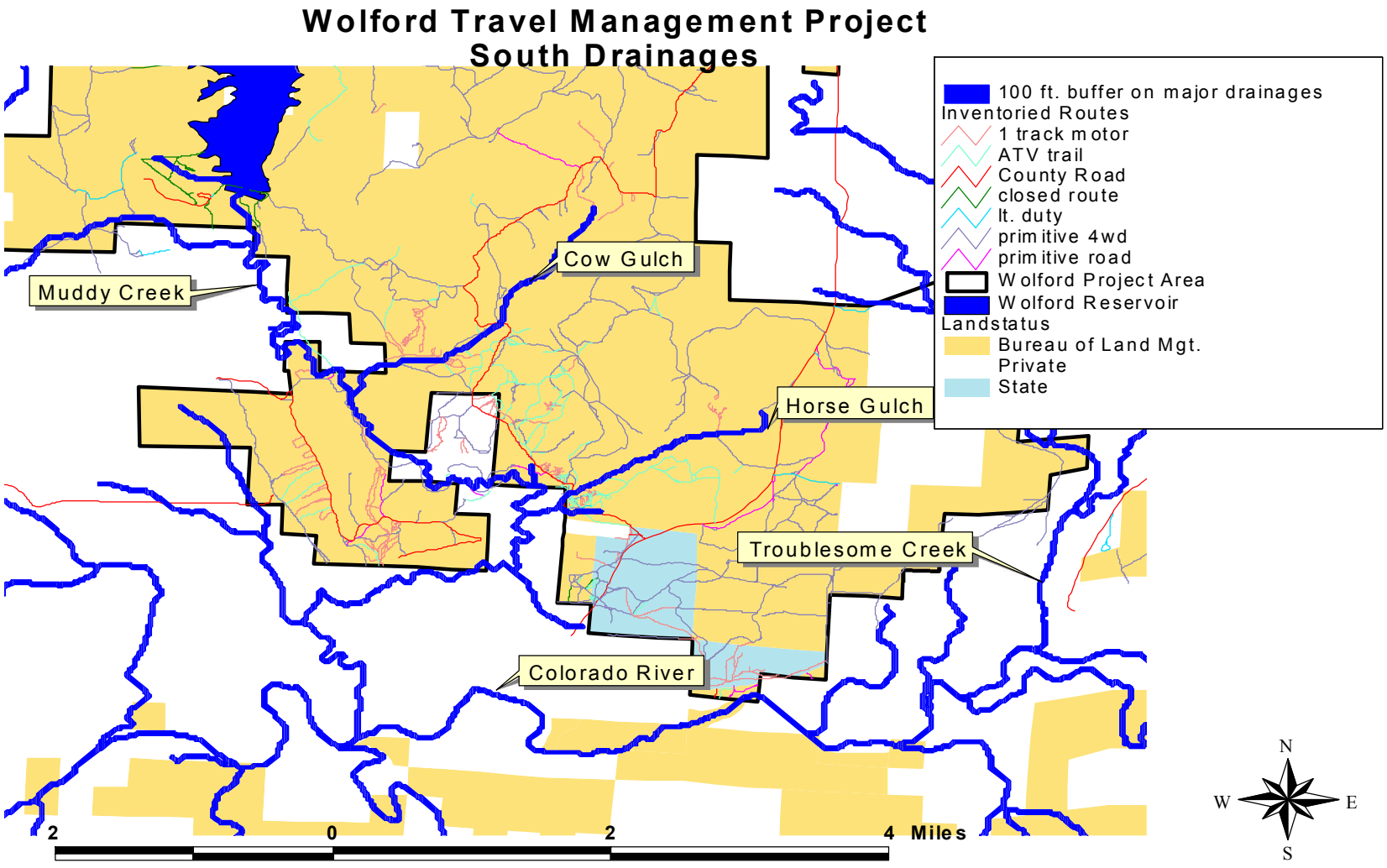


Appendix 5, Map D

Wolford Travel Management Area
Major Drainages- Midsection View



Appendix 5, Map E



Appendix 5, Map F

Three drainage areas were particularly focused on: Cow Gulch, Hay Gulch, and Horse Gulch. Cow Gulch and Hay Gulch were selected due to both drainages having perennial water and being located in the more heavily traveled portions of the project area. Horse Gulch was selected due to it being in the midst of the high route density area.

Some assumptions were made in comparing alternatives-

- the plan's standard widths were used to in the analysis. It is acknowledged that some route's impacts are much more or much less than the standard. Due to the volume of data, the standard widths were used as numerical comparisons were the objective. Route "growth" occurred if the inventoried route type was narrower than the alternative's type. For example, a route may have been listed in the inventory as "ATV", but under an alternative, it is listed as "OPEN".

- an administrative use only designation would not change the route width, but over time, the vegetative cover would improve some. This is dependant on many factors and may take several years to achieve. For many of the routes, however, an administrative use designation would result in similar conditions as closed routes that were revegetating naturally.

- Condition surveys were considered but not factored into calculations. Route conditions can be temporal and difficult to assess from the field notes. With maintenance, or improvements, many routes could be improved without needing closure or reroute. The route analysis focused on the general location of the route, the purpose of the route, and the sustainability of the route without unacceptable direct or indirect impacts.

- Aerial photography was used to add private roads that occur within the drainage unit- in or outside of the project area. Highways were not included in the road acreage. Acreage also includes the Wolford Campgrounds. These types of "bare soil" areas are not reflected in a linear analysis.

Water Quality:

A summary of the water quality in the area is included in Table WQ. The data is BLM field collected data except for Muddy Creek. The Muddy Creek data is a United States Geological Survey (USGS) sampling site at the outlet of Wolford Reservoir. The number of samples for each stream and for each element varies greatly, with many of the sites only being sampled 1-3 times/year from May-September. Where the data range considerably, a "common" concentration is given in parentheses. Where only a single value is given, it is usually the only value for the site. For example, manganese has more recently become a concern in Muddy Creek, so the BLM has started sampling for it. Only 1 analysis for manganese has been done to date on Pinto Creek. The Pinto Creek site appears to have changes in the upstream irrigation practices since the Wolford Reservoir was constructed. In general, the lower values are from recent years, and the higher numbers are from pre-reservoir construction.

Water Quality Data within the Project Area
Table WQ

	State Standard	Antelope Crk	Cow Gulch	Deer Creek	Muddy Creek	Pinto Crk
Flow cfs		0.06-1.5 (0.1-0.3)	0.05-0.4 (0.1)	0.2-12.2	3-1000 (80-90)	0.4 - 6.7 (2.6)
pH	6.5-9.0	7.5-8.4	8-8.7	6.4-9.0 (8)	7.3-8.8	7.7 – 8.18
TSS mg/L		0.5- 580 (10)	U-1170 (40-50)	12-64	96-178	12 - 280
TDS mg/L		160-738	262-3340 (280)	782-3046	226-568	1180 - 7914
EC umhos/com		473- 1226.8 (500)	77-556 (350)	79-2650 (1900)	356-974 (500)	1100 - 3400
Arsenic ug/L	50 (acute)	4	30		< 1-< 2	
Calcium mg/L		91-109	61	139-414 (355)	25.9-101 (45)	114 – 488 (149)
Chloride mg/L	250	1-5	3	1-20 (1-2)	0.4-7.17 (1.5)	2 - 37
Iron, dissolved ug/L	300	30-80	20	U-20	< 3 - 160 (< 10)	20
Lead, dissolved ug/L	~79.43 (acute) ~3.095 (chronic)	2	1		< 1	
Magnesium, dissolved mg/L		35-47	10.6	58.7- 235 (60-80)	5.6- 41.8 (23)	82 - 720
Manganese, dissolved ug/L	50	21.3-29.3		76- 95	1.5- 403 (< 10)	90
Mercury, dissolved ug/L	0.01 (chronic)				< 0.01 -< 0.2	
Nitrate mg/L	10	<0.02-0.7	U	0.05-0.13		U – 1.09
Nitrite mg/L	0.05	U-0.01	U	U	0.002-0.013 (0.01)	U – 0.02
Phosphate (ortho) mg/L		0.02-0.03	0.04	U-0.02	0.005-0.05 (0.01)	0.02
Potassium mg/L		2.8-5	6.6	4.3-7.5	0.5-3.25 (2.4)	2.6 – 15
	State Standard	Antelope Crk	Cow Gulch	Deer Creek	Muddy Creek	Pinto Crk
Selenium ug/L	4.6 (chronic) 18.4 (acute)	U-2	2	6-23	1-3	2 - 7
Sodium mg/L		44-73	22.2	29-120 (30)	7.76-58.2 (22)	80- 566
Sulfate mg/L	250- water supply	160-296	36	650-2492	35.6-367 (120)	358 – 4882

The streams generally have low metal concentrations and are meeting state standards. Pinto Creek and Muddy Creek may have concerns with manganese. Muddy Creek's earlier manganese concentrations were well below the state standards, but in 1998 (and once in 2002), concentrations peaked. Deer Creek and Pinto Creek also may have excessive Selenium concentrations. The source of selenium is the local soils, and private irrigation practices appear to flush the selenium from the soil.

There is no numerical standard for stream sediments. Due to the different landforms and types of channels, natural sediment loads vary. The BLM has been working with the Colorado Water Quality Control Division to apply the state's guidance in assessing streams for sediment impairment. At this time, Muddy Creek and its tributaries have not been assessed. Due to the small percentage of BLM ownership within the watershed, it has been a lower priority. As further studies determine what the natural sediment loads for the area's streams are, BLM may be able to better determine if their land uses are affecting water quality. At this time, grazing allotments are implementing best management practices to help improve watershed, and especially riparian conditions. In determining route designations, high priority was given to reduce routes adjacent to live streams and stream crossings, and routes with erosion concerns.

The Alternatives:

Acres of Road & Road density (road acres/Drainage acres)

Drainage Areas	Mean Slope	Existing	Low Use Alternative	High Use Alternative	Proposed Alternative
Cow Gulch (2404 acres)	10%	17.38 acres 0.007	9.81 acres 0.004	16.8 acres 0.007	12.97 acres 0.005
Hay Gulch (2406 acres)	8.6%	12.4 acres 0.005	6.34 acres 0.003	10.67 acres 0.004	8.08 acres 0.003
Horse Gulch (1665 acres)	7.4%	11.95 acres 0.007	7.53 acres 0.005	11.09 acres 0.007	9.93 acres 0.006
Lower Antelope (2211 acres)	8.3%	7.32 acres 0.003	5.05 acres 0.002	6.29 acres 0.003	5.45 acres 0.002
Upper Antelope (3257 acres)	8.7%	14.3 acres 0.004	10.73 acres 0.003	13.35 acres 0.004	11.79 acres 0.004
North (2885 acres)	6.0%	6.81 acres 0.002	5.98 acres 0.002	6.68 acres 0.002	6.35 acres 0.002
Anorth (1945 acres)	5.6%	11.4 acres 0.006	9.91 acres 0.005	11.03 acres 0.006	10.94 acres 0.006
East (2203 acres)	7.8%	12.55 acres 0.006	10.7 acres 0.005	12.15 acres 0.006	11.13 acres 0.005
MtnResv (2288 acres)	11.1%	21.52 acres 0.009	13.42 acres 0.006	21 acres 0.009	18.76 acres 0.008
Eastresv (2624 acres)	7.6%	9.80 acres 0.004	6.3 acres 0.002	8.62 acres 0.003	6.34 acres 0.002
Pickering (2013 acres)	9.0%	7.20 acres 0.004	4.35 acres 0.002	7.61 acres 0.004	5.4 acres 0.003

Drainage Areas	Mean Slope	Existing	Low Use Alternative	High Use Alternative	Proposed Alternative
StarGulch (1758 acres)	6.5%	7.68 acres 0.004	5.61 acres 0.003	7.21 acres 0.004	6.5 acres 0.004
Troublesome (895 acres)	4.9%	0.64 acres 0.001	0.59 acres 0.001	0.64 acres 0.001	0.59 acres 0.001
Horse Pasture (718 acres)	7.4%	4.15 acres 0.006	2.14 acres 0.003	4.13 acres 0.006	2.62 acres 0.004
MineShaft (952 acres)	8.0%	7.24 acres 0.008	6.78 acres 0.007	12.19 acres 0.013	9.84 acres 0.01
2West (1401 acres)	5.6%	4.94 acres 0.004	3.98 acres 0.003	4.8 acres 0.003	4.69 acres 0.003
WestResv (1573 acres)	5.8%	4.53 acres 0.003	3.54 acres 0.002	4.54 acres 0.003	4.36 acres 0.003
West (2758 acres)	5.3%	8.87 acres 0.003	5.76 acres 0.002	6.57 acres 0.002	6.39 acres 0.002
Red Dirt (1044 acres)	7.5%	1.44 acres 0.001	0.58 acres 0.001	1.35 acres 0.001	0.83 acres 0.001
127 (671 acres)	5%	7.54 acres 0.011	5.90 acres 0.009	7.54 acres 0.011	6.71 acres 0.010
Belowres (3063 acres)	11.1%	11.4 acres 0.004	7.30 acres 0.002	9.39 acres 0.003	9.29 acres 0.003
Cliffs (822 acres)	7.7%	8.22 acres 0.01	5.01 acres 0.006	7.62 acres 0.009	5.22 acres 0.006
Colorado (1702 acres)	6.1%	8.39 acres 0.005	5.94 acres 0.003	8.1 acres 0.005	6.59 acres 0.004

For all of the hydrologic response units, the routes were summarized by soil type and alternative. These were then totaled for the drainage unit and are shown in the above table. The table does not indicate where seasonal restrictions or limits in road use were applied, however, nor does it show the acreage that is outside of BLM management (private, state, and county roads). When reviewing the overlays and tables, it appeared that route location was more significant then route density, especially with the current levels of use. None of the road acreages alone were large enough to increase or alter expected runoff. For comparison, road densities were also calculated by the linear distance (miles of road/sq mile of drainage area). In looking at literature, these road densities (mile/sq mile) apply more to urban or suburban settings, where use levels and widths are greater. Motorcycle widths, for example, are not part of many of the analyses. Once again, seasonal limitations or administrative use only roads are not reflected in the densities. Also, road "growth" due to braiding or increased use is not reflected in this number. Many of the existing roads are motorcycle trails, which have the linear distance, but fail to expose a wide expanse of soil to erosion. The table below, however, provides linear road densities for comparisons to other plans and literature. Both types of densities, along with the individual hydrologic response unit's soils, slopes, and densities, were used to help prioritize monitoring.

Road Density (Road mile/Drainage sq mile)

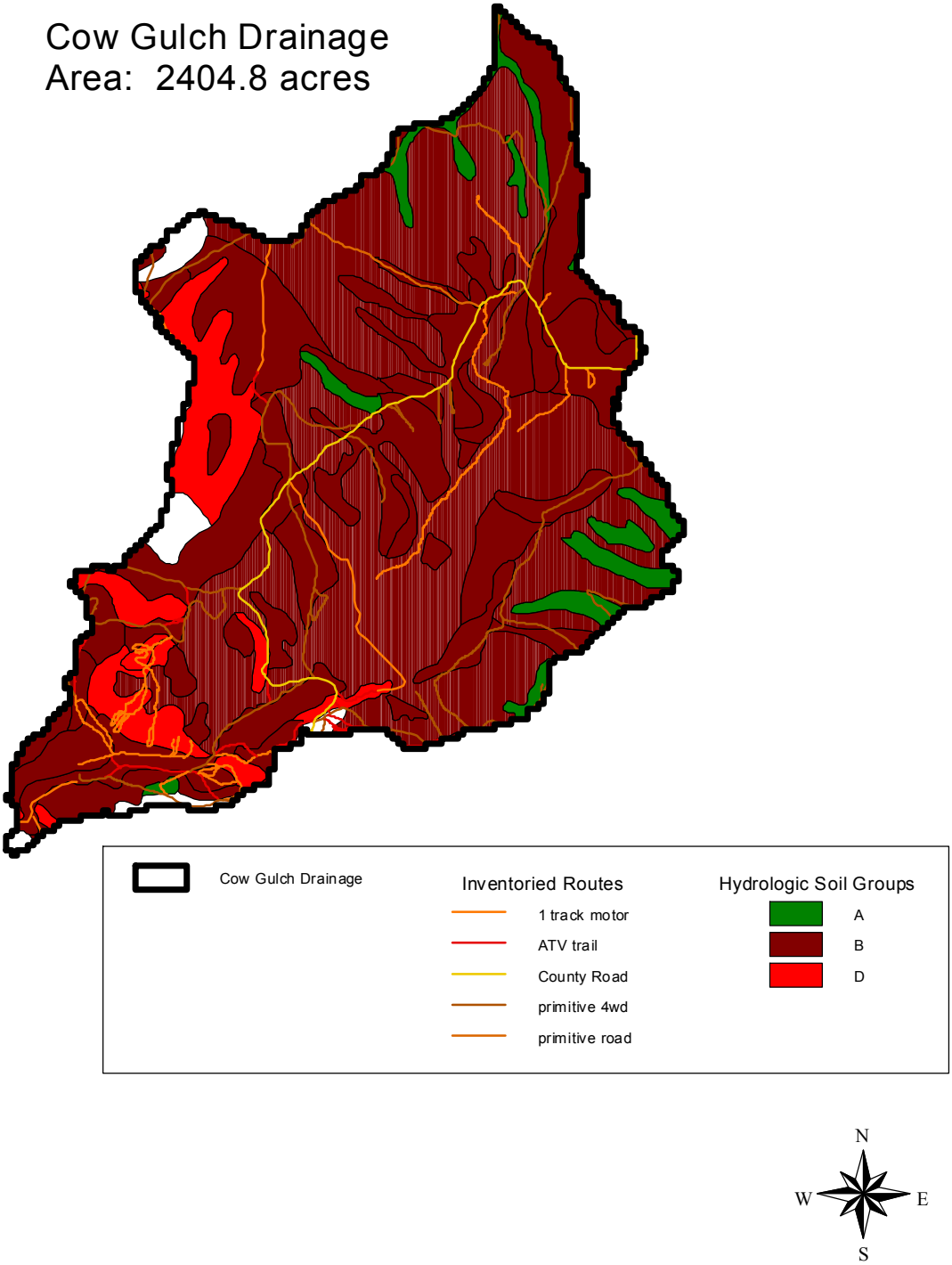
Drainage Areas	Mean Slope	Existing	Low Use Alternative	High Use Alternative	Proposed Alternative
Cow Gulch	10%	4.8	0.65	1.36	0.83
Hay Gulch	8.6%	4.64	2.11	4.09	3.07
Horse Gulch	7.4%	7.15	4.26	6.69	5.85
Lower Antelope	8.3%	2.45	1.63	2.23	1.83
Upper Antelope	8.7%	3.04	1.89	2.75	2.36
North	6.0%	2.32	2.04	2.37	2.25
Anorth	5.6%	4.47	3.71	4.31	4.26
East	7.8%	4.59	3.11	3.53	3.23
Eastresv	7.6%	3.08	1.97	1.97	1.94
MtnResv	11.1%	5.04	0.96	4.69	3.68
Pickering	9.0%	3.63	2.28	3.99	2.83
Star Gulch	6.5%	3.31	2.17	3.01	2.60
Troublesome	4.9%	0.73	0.68	0.73	0.68
Horse Pasture	7.4%	6.68	3.05	6.19	4.16
MineShaft	8.0%	13.31	6.27	12.47	11.03
2West	5.6%	3.23	2.51	3.13	3.05
WestResv	5.8%	1.57	0.91	1.57	1.46
West	5.3%	1.81	1.49	1.81	1.74
Red Dirt	7.5%	1.36	0.50	1.28	0.75
127	5%	10.30	7.89	10.16	8.19
Belowres	11.1%	2.61	2.32	3.06	2.92
Cliffs	7.7%	11.47	11.11	19.6	13.59
Colorado	6.1%	5.5	4.28	5.3	4.37

Reviewing the four route designations for watershed concerns was improved by separating out the type of road rather than just densities. For example, to compare the actual conditions on the ground, soils and route types are shown for the three drainages of Hay Gulch, Cow Gulch and Horse Gulch.

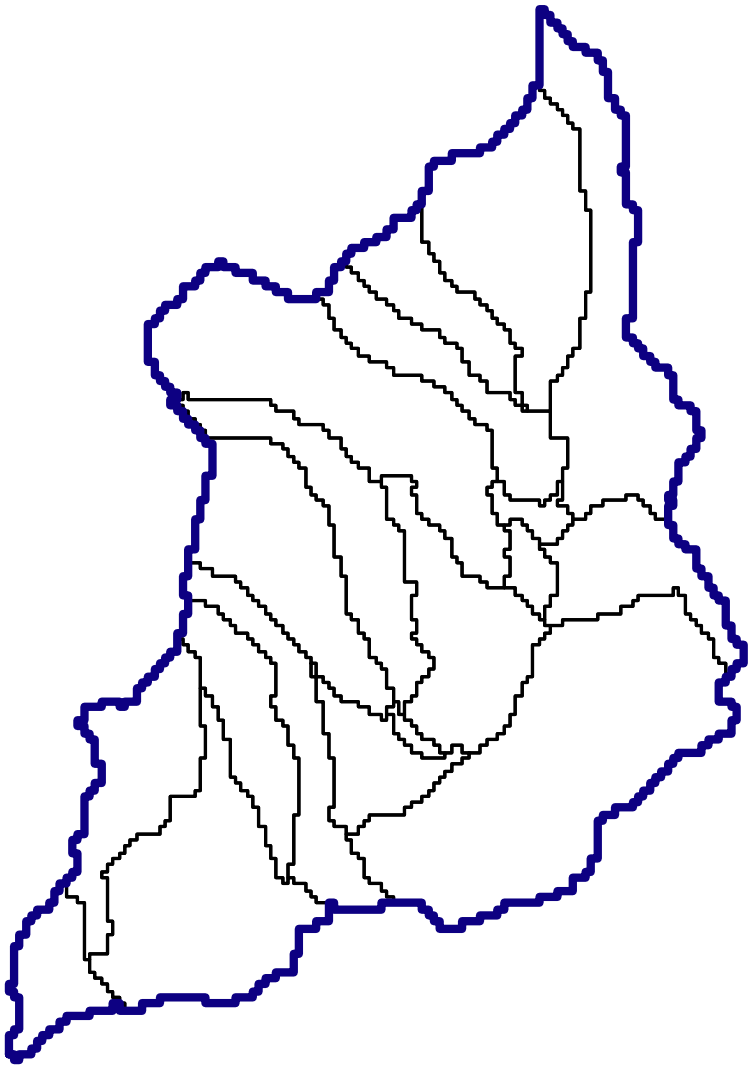
Hydrologic Soil Groups and Route Types by Alternative:

	Existing (41.7 acres of routes)	Alternative B (23.7 acres of routes)	Alternative D (38.6 acres of routes)	Proposed (30.98 acres of routes)
County, State, or Private Roads	0.03 acres "A" 9.97 acres "B" 0.85 acres "D" 0.89 acres "Rock" (11.74 acres)	0.03 acres "A" 9.97 acres "B" 0.85 acres "D" 0.89 acres "Rock" (11.74)	0.03 acres "A" 9.97 acres "B" 0.85 acres "D" 0.89 acres "Rock" (11.74 acres)	0.03 acres "A" 9.97 acres "B" 0.85 acres "D" 0.89 acres "Rock" (11.74 acres)
Administrative or Seasonal Use		0.4 acres "A" 5.35 acres "B" 0.09 acres "C" 0.4 acres "D" 0.1 acres "Rock" (6.34 acres)	2.54 acres "B" 0.05 acres "C" 0.46 acres "D" 0.06 acres "Rock" (3.11 acres)	1.62 acres "B" 0.33 acres "D" 0.06 acres "Rock" (2.01 acres)
Open Routes	1.48 acres "A" 24.29 acres "B" 0.2 acres "C" 3.09 acres "D" 0.9 acres "Rock" (29.96 acres)	1.5 acres "A" 3.6 acres "B" 0.06 acres "C" 0.35 acres "D" 0.13 acres "Rock" (5.6 acres)	2.25 acres "A" 18.36 acres "B" 0.15 acres "C' 2.08 acres "D" 0.87 acres "Rock" (23.7 acres)	1.73 acres "A" 13.88 acres "B" 0.08 acres "C" 0.98 acres "D" 0.56 acres "Rock" (17.23 acres)

Although the road acreage under the Proposed Action is more than double the Low Use Alternative, it primarily occurs on B soils. More than 60% of the existing routes on D soils and Cryorthent/Rock outcrop complexes are no longer "open" designations. The Proposed Action focused on reducing routes on steep, or erosive, or problematic areas while still providing recreational use.



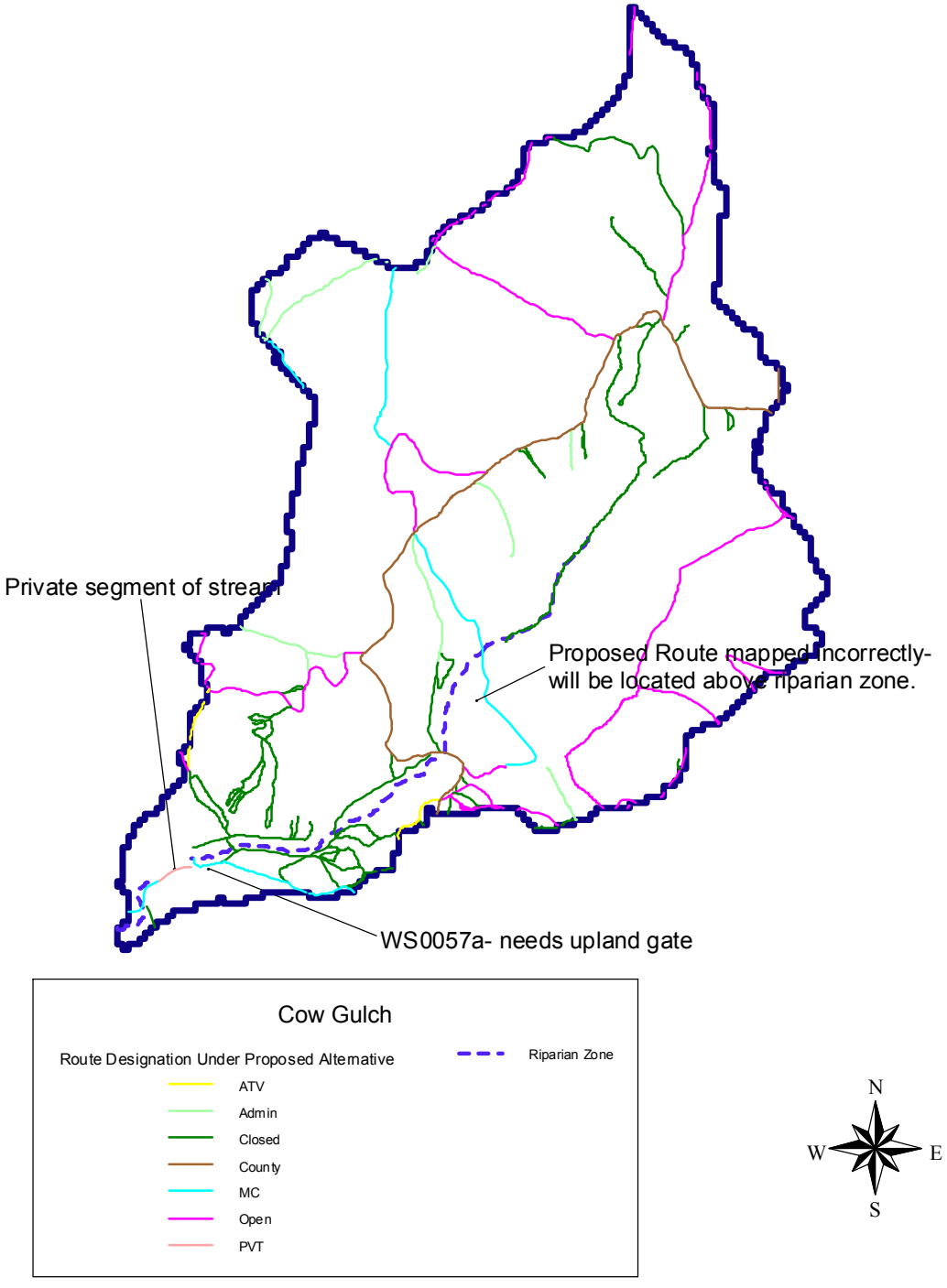
Appendix 5, Map G



Cow Gulch Drainage Area with Hydrologic Response Units

Appendix 5, Map H

Proposed Alternative's Route Designations for Cow Gulch



Appendix 5, Map I